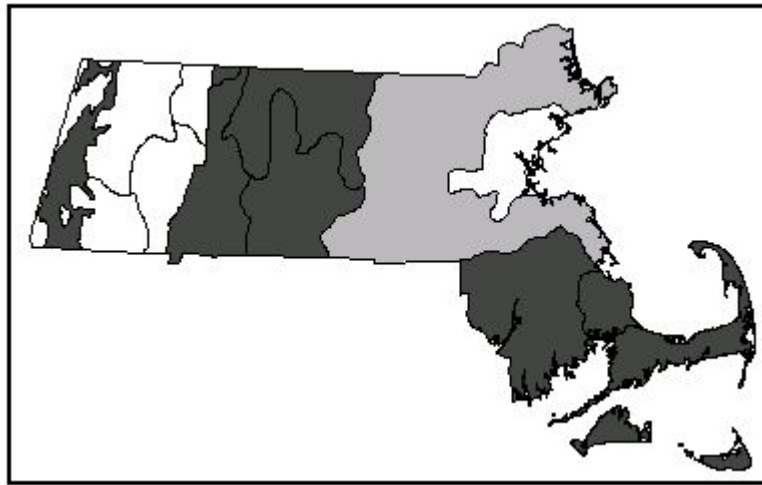


**Community Name:** KETTLEHOLE LEVEL BOG  
**Community ELCODE:** CP2B0C1100  
**SRANK:** S2



**Concept:** A variant of level bogs occurring in kettle depressions in sandy glacial outwash. Vegetation is typically zoned in rings in the peatland.

**Environmental setting:** Kettlehole level bogs are a subset of level bogs that occur in iceblock depressions (commonly called kettleholes) in sandy glacial outwash. They are typically small (< 3 acres), round, and they lack inlets and outlets.

**Vegetation Description:** Kettlehole level bogs have similar vegetation to level bogs, except that the vegetation is typically in a ringed zonation pattern. Often the outer wet moat is dominated by a mixture of highbush blueberry (*Vaccinium corymbosum*) and swamp azalea (*Rhododendron viscosum*) bordered to the interior by a ring of rhodora (*Rhododendron canadense*). The mat has a mixture of tall and short shrubs that are predominantly ericaceous (members of the Heath family). Leatherleaf (*Chamaedaphne calyculata*) is dominant. Other typical ericaceous shrubs include rhodora, sheep laurel (*Kalmia angustifolia*), bog laurel (*Kalmia polifolia*), bog rosemary (*Andromeda polifolia* var. *glaucophylla*), Labrador tea (*Ledum groenlandicum*), and low-growing large and small cranberry (*Vaccinium macrocarpon* and *V. oxycoccus*). Scattered, stunted coniferous trees, primarily tamarack (*Larix laricina*) and black spruce (*Picea mariana*) occur throughout. A mixture of specialized bog plants grow on the hummocky sphagnum surface, including carnivorous pitcher plants (*Sarracenia purpurea*) and sundews (*Drosera rotundifolia* and *D. intermedia*). Many of the kettlehole bogs observed in the state have drier and more stable sphagnum mats than level bogs not in kettleholes, and they have abundant bog laurel and three-leaved Solomon's seal (*Maianthemum trifolium*).

**.Associations:** One association has been described in Massachusetts: the *Chamaedaphne calyculata*-*Kalmia polifolia*-*Maianthemum trifolium* dwarf ericaceous shrub bog association [TYPE C in Kearsley, 1999c].

**Habitat values for Associated Fauna:** Moats surrounding kettlehole level bogs can function as vernal pool habitat if water remains standing for 2-3 months and they lack fish; these areas provide important amphibian breeding habitat.

**Associated rare plants:**

MAIANTHEMUM TRIFOLIUM	THREE-LEAVED SOLOMON'S SEAL	- WL
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**Associated rare animals:**

AMBYSTOMA JEFFERSONIANUM	JEFFERSON SALAMANDER	SC
AMBYSTOMA LATERALE	BLUE-SPOTTED SALAMANDER	SC
CLEMMYS GUTTATA	SPOTTED TURTLE	SC
LITHOPHANE VIRIDIPALLENS	PALE GREEN PINION MOTH	SC
PAPAIPEMA APPASSIONATA	PITCHER PLANT BORER MOTH	SC

Natural Heritage & Endangered Species Program, Massachusetts Division of Fisheries & Wildlife

<b>Examples with Public Access:</b>	Arcadia bog, Belchertown.		
<b>Threats:</b>	Hydrologic alteration and nutrient enrichment from road and lawn runoff. Trampling from humans affects peat mat integrity.		
<b>Management needs:</b>	Public should be encouraged to visit only those sites with established boardwalks. Signs need to be posted along boardwalks encouraging visitors to stay off the peat mat. Monitor the impact of salt and other nutrient runoff into bogs, and work to minimize runoff. Remove phragmites where it has become established.		
<b>Synonyms</b>			
<b>USNVC/TNC:</b>	includes <i>Vaccinium corymbosum</i> /Sphagnum spp. Shrubland ; <i>Picea mariana</i> / <i>Kalmia angustifolia</i> /Sphagnum spp. Forest; <i>Picea mariana</i> /Sphagnum spp. (Lower New England /Northern Piedmont, North Atlantic Coast) Woodland ; <i>Kalmia angustifolia</i> - <i>Chamaedaphne calyculata</i> ( <i>Picea mariana</i> )/ <i>Cladina</i> dwarf-shrubland.		
<b>MA [old name]:</b>	Part of SNE level bog [CP2C2A0000].		
<b>ME:</b>	similar to Dwarf shrub bog community.		
<b>VT:</b>	Part of Dwarf shrub bog.		
<b>NH:</b>	Part of Coastal/southern dwarf shrub bog and Boreal/transitional dwarf shrub bog.		
<b>NY:</b>	Part of Dwarf shrub bog.		
<b>CT:</b>	<i>Chamaedaphne calyculata</i> dwarf shrubland s.		
<b>RI:</b>	Part of Dwarf shrub bog.		
<b>Golet &amp; Larson, 1974:</b>			
<b>Other:</b>			
<b>Author:</b>	J. Kearsley	<b>Date:</b>	7/21/99